

## REMARKS/ARGUMENTS

In the Office Action of December 15, 2011, claims 1-4, 6, 11 and 12 are rejected. In addition, claim 16 is allowed and claims 5, 7-10 and 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. However, Applicant hereby requests reconsideration of the application in view of the below-provided remarks. No claims have been amended, added or canceled.

### Allowable Subject Matter

Applicant appreciates the Examiner's review of and determination that claims 5, 7-10 and 13-16 recite allowable subject matter. In particular, the Office Action states that claim 16 is allowed and that claims 5, 7-10 and 13-15 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

At this time, Applicant chooses not to rewrite claims 5, 7-10 and 13-15 in independent form including all of the limitations of the base claim and any intervening claims. Instead, Applicant respectfully asserts that the pending claims are allowable as being dependent upon allowable independent claims 1, 6 and 11, as described in the remarks below.

### Claim Rejections under 35 U.S.C. § 103

Claims 1, 2, 6, 11 and 12 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kral (U.S. Pat. App. Pub. No. 2004/0166799 A1) in view of Roberts (U.S. Pat. App. Pub. No. 2004/0120424 A1) and further in view of Pfeiffer (U.S. Pat. No. 6,049,584). Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kral in view of Roberts, further in view of Pfeiffer and further in view of Chea Jr. (U.S. Pat. App. Pub. No. 2002/0089804 A1). However, Applicant respectfully submits that the pending claims are patentable over the cited references for the reasons provided below.

### Independent Claim 1

Applicant respectfully asserts that Pfeiffer is nonanalogous art and therefore cannot be used as prior art for an obviousness rejection under 35 U.S.C. 103. Thus, Applicant respectfully submits that a *prima facie* case of obviousness has not been established with respect to claim 1.

With respect to nonanalogous art and obviousness under 35 U.S.C. 103, it has been held:

"A reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the claimed invention. *Innovention Toys, LLC, v. MGA Entertainment, Inc.*, No. 2010-1290, slip op. at 12 (Fed. Cir. Mar. 21, 2011); *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004); *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). "Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *Bigio*, at 1325. Here, the Board focused exclusively on the "reasonably pertinent to the particular problem" test. "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *Clay*, 966 F.2d at 659. "If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and that fact supports use of that reference in an obviousness rejection." *Id.*

Applicant respectfully asserts that Pfeiffer is nonanalogous art under both of the identified tests.

The claimed invention generally relates to wireless communication, and more particularly relates to at least partial serialization of multi-band sequence keying in ultra wideband communications. Kral is generally directed to a direct conversion satellite tuner that includes on-chip local oscillator, tunable baseband filters, and a DC Offset cancellation circuit. (See the abstract of Kral). As such, the reference of Kral is directed to wireless communication and is therefore analogous art. Roberts is generally directed to ultrawide bandwidth (UWB) transmitters, receivers and transmission schemes and a method and system for sending data across a UWB signal using M-ary bi-orthogonal keying. (See paragraph [0002] of Roberts ). As such, the reference of Roberts is directed to ultra wideband communications and is therefore analogous art. However, Pfeiffer is generally directed to an X-ray diagnostic apparatus for producing panorama slice

exposure of body parts of a patient. (See the abstract of Pfeiffer). Applicant respectfully asserts that an X-ray diagnostic apparatus is not in the same field of endeavor as wireless communication devices such as ultra wideband communication devices. In support of this position, Applicant notes that the current application is classified in USPTO class 375 under Pulse Or Digital Communications while Pfeiffer is classified In USPTO Class 378 under X-Ray Or Gamma Ray Systems Or Devices. Additionally, the X-ray diagnostic apparatus of Pfeiffer is not related to partially serializing an ultra wideband symbol as in claim 1. Therefore, Applicant respectfully asserts that Pfeiffer is nonanalogous art under the first test.

Additionally, Applicant respectfully asserts that Pfeiffer is nonanalogous art because Pfeiffer is not reasonably pertinent to the particular problem with which the current invention is involved. The problem with which the current invention is involved relates to providing ultra wideband receiver architectures that can have reduced complexity and reduced power consumption. As described above, Pfeiffer relates to an X-ray diagnostic apparatus for producing panorama slice exposure of body parts of a patient. The Office Action on page 6 states that column 3, lines 38-44 of Pfeiffer teaches “the received data is partially serialized.” Pfeiffer teaches a CCD detector (5) of an X-ray diagnostic apparatus that is divided into ten TDI zones. (See Fig. 3 and column 3, lines 16-29 of Pfeiffer). Pfeiffer also teaches that the output of the ten zones can be partially serialized on the CCD chip, according to which data transmission is desired on a line or how many data lines can be maintained in parallel up to the digitization. (See column 3, lines 38-44 of Pfeiffer). Although Pfeiffer teaches that the output of the ten zones can be partially serialized on the CCD chip of the X-ray diagnostic apparatus, Pfeiffer does not mention that partial serialization is provided to sequence keyed ultra wideband symbols, nor does Pfeiffer mention that ultra wideband communication devices can have reduced complexity and reduced power consumption because of the partial serialization. Therefore, Applicant respectfully asserts that there is no logical reason why Pfeiffer would have commanded the attention of one of ordinary skill in the art that is trying to address the problem of providing ultra wideband receiver architectures that can have reduced complexity and reduced power consumption. Because Pfeiffer would not have commanded the attention of one of ordinary skill in the art that is trying to address the

problem of providing ultra wideband receiver architectures that can have reduced complexity and reduced power consumption, Pfeiffer is not reasonably pertinent to the particular problem with which the current invention is involved. Therefore, Applicant respectfully asserts that Pfeiffer is nonanalogous art under the second test.

Because Pfeiffer is nonanalogous art under both tests, Applicant respectfully asserts that Pfeiffer cannot be used as prior art for an obviousness rejection under 35 U.S.C. 103. Accordingly, Applicant respectfully submits that a *prima facie* case of obviousness has not been established with respect to claim 1.

#### Dependent Claims 2-4

Claims 2-4 depend from and incorporate all of the limitations of independent claim 1. Thus, Applicant respectfully asserts that claims 2-4 are allowable at least based on an allowable claim 1.

#### Independent Claim 6

Claim 6 recites similar subject matter as claim 1. Although the language of claim 6 differs from the language of claim 1, and the scope of claim 6 should be interpreted independently of other claims, Applicant respectfully asserts that the remarks provided above with regard to claim 1 apply also to claim 6. Accordingly, Applicant respectfully submits that a *prima facie* case of obviousness has not been established with respect to claim 6.

#### Independent Claim 11

Claim 11 recites similar subject matter as claim 1. Although the language of claim 11 differs from the language of claim 1, and the scope of claim 11 should be interpreted independently of other claims, Applicant respectfully asserts that the remarks provided above with regard to claim 1 apply also to claim 11. Accordingly, Applicant respectfully submits that a *prima facie* case of obviousness has not been established with respect to claim 11.

### Dependent Claim 12

Claim 12 depends from and incorporates all of the limitations of independent claim 11. Thus, Applicant respectfully asserts that claim 12 is allowable at least based on an allowable claim 11.

### **CONCLUSION**

Generally, in this Response to the Office Action, Applicant has not raised all possible grounds for (a) traversing the rejections of the Office Action or (b) patentably distinguishing any new or currently amended claims (i.e., over the cited references or otherwise). Applicant however, reserves the right to explicate and expand on any ground already raised and/or to raise other grounds for traversing and/or for distinguishing, including, without limitation, by explaining and/or distinguishing the subject matter of the Application and/or any cited reference at a later time (e.g., in the event that this Application does not proceed to issue with the current pending claims, or in the context of a continuing application). Applicant submits that nothing herein is, or should be deemed to be, a disclaimer of any rights, acquiescence in any rejection, or a waiver of any arguments that might have been raised but were not raised herein, or otherwise in the prosecution of this Application, whether as to the original claims or as to any of the new or amended claims, or otherwise. Without limiting the generality of the foregoing, Applicant reserves the right to reintroduce one or more of the original claims in original form or otherwise so as to claim the subject matter of those claims, both/either at a later time in prosecuting this Application or in the context of a continuing application.

Applicant respectfully requests reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted on behalf of:

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Date: March 14, 2012

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